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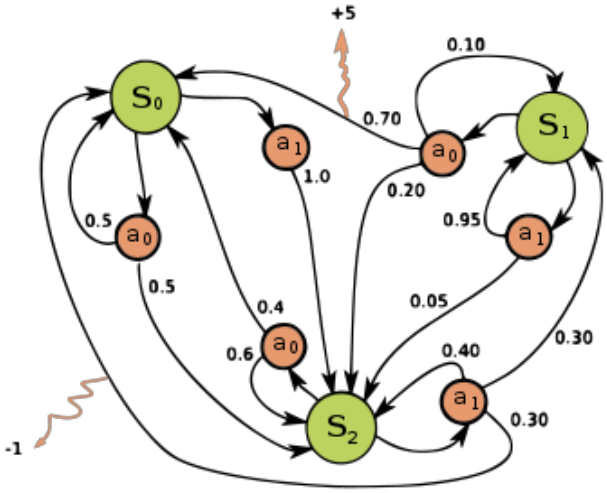
Markov Decision Process Representations

Consider the MDP shown in the state-transition diagram below.



Complete the tabular (matrix) representations of the T(s, a, s') and R(s, a, s').

T

	s_0	s_1	s_2
s_0, a_0	0.5	0.0	0.5
s_0, a_1	0.0	0.0	1.0
s_1, a_0	0.7	0.1	0.2
s_1, a_1	0	0.95	0.05
s_2, a_0	0.4	0.0	0.6
s_2, a_1	0.3	0.3	0.4

R

	s_0	s_1	s_2
s_0, a_0	0.0	0.0	0.0
s_0, a_1	0.0	0.0	0.0
s_1, a_0	5	0	0.0
s_1, a_1	0	0	0
s_2, a_0	0	0	0
s_2, a_1	-1	0	0

Next, take a different MDP, represented below in matrix form, and draw its state-transition diagram.

T

	s_0	s_1
s_0, a_0	0.8	0.2
s_0, a_1	0.5	0.5
s_1, a_0	0.5	0.5
s_1, a_1	0.2	0.8

R

	s_0	s_1
s_0, a_0	2	2
s_0, a_1	5	4
s_1, a_0	2	2
s_1, a_1	4	-10